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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|----------------------------------|------------------------|
| 10/603,546 | 06/25/2003 | Wei-Yi Lin | 10112271 | 5452 |
| 34283 7590 06/12/2007 QUINTERO LAW OFFICE, PC 2210 MAIN STREET, SUITE 200 SANTA MONICA, CA 90405 | | | EXAMINER RAABE, CHRISTOPHER M | |
| | | | ART UNIT 2879 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/603,546

Applicant(s)

LIN ET AL.

Examiner

Christopher M. Raabe

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,6-9,14-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-9 and 14-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February, 27, 2007 has been entered.
2. Applicant's arguments filed February 27, 2007 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2879

4. Claims 1,2,6-9,14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Namikawa et al. (USPN 5600203) in view of Ellison et al. (USPN 2002/0079611).

With regard to claim 1,

Namikawa et al. disclose in at least figure 12 and column 10, line 45 through column 11, line 20 a method of repositioning display spacers (3,6,113) using inductive attraction comprising: providing magnetic spacers (3,6,113); providing an inductive chuck (7) to attract the magnetic spacers (3,6,113) by magnetic force (via 114), wherein the magnetic spacers (3,6,113) are lifted by the inductive chuck (7), wherein the magnetic spacers (3,6,113) directly contact the inductive chuck (7); providing a substrate (2); aligning the spacers (3,6,113) with desired positions on the substrate (2); wherein the magnetic spacers (3,6,113) directly contact the substrate (2).

Namikawa et al. do not disclose applying and interrupting a voltage to the chuck.

Ellison et al. do disclose in at least paragraph 13, an inductive chuck wherein a voltage is applied and interrupted to control the clamping force of the chuck.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the voltage modulation of Ellison et al. into the method Namikawa et al. in order to enhance control.

With regard to claim 2,

Namikawa et al. disclose in at least column 1, lines 10 through 20, wherein the spacers (3,6,113) are spacers of a field emission display.

With regard to claim 6,

Art Unit: 2879

Namikawa et al. disclose, the method as claimed in claim 1, wherein the spacers (3,6,113) are made of magnetic materials.

With regard to claim 7,

Namikawa et al. disclose, the method as claimed in claim 1, wherein the spacers (3,6,113) are completely comprised of magnetic materials.

With regard to claim 8,

Namikawa et al. disclose, the method as claimed in claim 1, wherein the spacers (3,6,113) are partially comprised of magnetic materials.

With regard to claim 9,

Namikawa et al. disclose the method as claimed in claim 5, wherein the spacers (3,6,113) have two or more layers (3,6,113), at least one of which is made of magnetic materials.

With regard to claim 14,

Namikawa et al. disclose the method as claimed in claim 1, wherein the spacers (3,6,113) comprise metal, alloy, or a combination thereof.

With regard to claim 15,

Namikawa et al. disclose the method as claimed in claim 1, wherein the spacers (3,6,113) are cylindrical, X-, I-, L-, or bar shaped, or a combination thereof.

Art Unit: 2879

With regard to claim 16,

Namikawa et al. disclose the method as claimed in claim 1, wherein the shapes of the spacers (3,6,113) have two or more cross points, comprising comb, lattice, grid or zig-zag shapes, or a combination thereof.

With regard to claims 17-20,

Namikawa et al. disclose in at least column 11, lines 43-47 and column 1, lines 10-20, wherein the substrate (2) is the anode plate or cathode plate of a field-emission flat panel display.

5. Claims 21,22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Namikawa et al. and Ellison et al. (as above), and further in view of Yakou et al. (USPN 5855637).

With regard to claims 21 and 22,

Namikawa et al. disclose the method as claimed in claim 1.

Namikawa et al. do not disclose wherein an alignment step comprising the use of a charge coupled device (CCD) and alignment marks.

Yakou et al. do disclose in at least figures 1 and 9, column 8, lines 35-45, and column 11, lines 49-57) an alignment step comprising the use of a charge coupled device (CCD) (36A,B) and alignment marks (2b,c), forming a stronger bond between the spacer and substrate.

Art Unit: 2879

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the step of Yakou et al. into the method of Namikawa et al. in order to form a stronger bond between the spacer and the substrate.

6. Claims 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Namikawa et al. and Ellison et al. (as above), in view of Guenther et al. (USPN 6949880).

With regard to claim 25,

Namikawa et al. disclose in at least figure 12 and column 10, line 45 through column 11, line 20 a method of repositioning display spacers (3,6,113) using inductive attraction comprising: providing spacers (3,6,113); providing an inductive chuck (7) to attract the spacers (via 114), wherein and the spacers (3,6,113) are lifted by the inductive chuck (7), wherein the spacers (3,6,113) directly contact the inductive chuck (7); providing a substrate (2); aligning the spacers (3,6,113) with desired positions on the substrate (2); wherein the spacers (3,6,113) directly contact the substrate (2).

Namikawa et al. do not disclose applying and interrupting a voltage to the chuck, nor the use of an electrostatic force.

Ellison et al. do disclose in at least paragraph 13, an inductive chuck wherein a voltage is applied and interrupted to control the clamping force of the chuck.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the voltage modulation of Ellison et al. into the method Namikawa et al. in order to enhance control.

Guenther et al. do disclose in at least column 4, lines 11 through 25 the use of electrostatic force to hold spacers in order to prevent spacer agglomeration on the substrate.

Art Unit: 2879

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the use of electrostatic force of Guenther et al. into the method of Namikawa et al. in order to prevent spacer agglomeration on the substrate.

With regard to claim 26,

Namikawa et al. disclose the method as claimed in claim 25, wherein the inductive force lifts the spacers (3,6,113) and brings them into contact with the inductive chuck (7).

The obviousness of the use of electrostatic force was addressed in the rejection of claim 25.

With regard to claim 27,

The method as claimed in claim 26, wherein the spacers (3,6,113) are released from the inductive chuck (7).

The obviousness of the use of electrostatic force was addressed in the rejection of claim 25.

Namikawa et al. do not disclose applying and interrupting a voltage to the chuck.

Ellison et al. do disclose in at least paragraph 13, an inductive chuck wherein a voltage is applied and interrupted to control the clamping force of the chuck.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the voltage modulation of Ellison et al. into the method Namikawa et al. in order to enhance control.

With regard to claim 28,

Art Unit: 2879

Namikawa et al. disclose the method as claimed in claim 25, wherein the spacers (3,6,113) have two or more layers (3,6,113), at least one of which is made of electrostatic materials.

With regard to claim 29,

Namikawa et al. disclose the method as claimed in claim 25, wherein the spacers (3,6,113) are made of dielectric, ceramic or glass materials, or a combination thereof.

Response to Arguments

7. While the applicant argues that the Namikawa reference does not teach the spacers directly contacting the substrate and the inductive chuck, the examiner asserts that this feature is taught in at least figure 12, where the spacers, composed of elements 3, 6, and 113, are shown to be in direct contact with a substrate (2) and inductive chuck (7).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Raabe whose telephone number is 571-272-8434. The examiner can normally be reached on m-f 7am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2879

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Raabe whose telephone number is 571-272-8434.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CR

Peter Macchiarolo


Patent Examiner, Art Unit 2879